

**CLAIMS:**

1. A system for wireless communication, particularly for receiving communication signals, said system comprising:  
a main antenna structure, said antenna structure adapted to receive a communication signal as a first internal signal; and  
an antenna cable, said antenna cable having a first end operationally coupled to said main antenna structure and a second end, said antenna cable including a main conductor for passing said first internal signal, and a second receiving conductor, said second receiving conductor adapted to receive said communication signal as a second internal signal, and wherein said second receiving conductor as a receiving element is spatially separated from the main antenna structure.
2. The system of claim 1, wherein said second receiving conductor functions as an electromagnetic shield for the antenna cable.
3. The system of claim 1, wherein said communication signal is provided by a signal source.
4. The system of claim 3, wherein said communication signal is a radio frequency (RF) signal.
5. The system of claim 1, wherein said system further comprises:  
a receiver operationally coupled to said antenna cable, wherein said receiver includes an input port adapted to receive said signal from the main antenna, and also adapted to receive a signal from the outer shield of the antenna cable as a separate signal.
6. The system of claim 5, wherein said receiver includes signal processing circuitry operationally coupled to said input port, said signal processing circuitry adapted to process said first internal signal and said second internal signal for use by an end user.
7. The system of claim 6, wherein said input port includes a decoupling device, said decoupling device adapted to separate signals carried by the antenna cable from the main antenna and induced on the outer shield of the antenna cable.

8. A method of providing diversity reception in an antenna system, said method comprising:  
providing a main antenna structure, said main antenna structure adapted to receive a communication signal as a first internal signal; and  
providing an antenna cable, said antenna cable having a first end operationally coupled to said main antenna structure and a second end, said antenna cable adapted to receive said communication signal as a second internal signal, and wherein said outer shield acts as an antenna and is spatially separated from the main antenna structure.
9. The method of claim 8, wherein said outer shield functions as an electromagnetic shield for said antenna cable.
10. The method of claim 8, wherein said communication signal is provided by a signal source.
11. The method of claim 10, wherein said communication signal is a radio frequency (RF) signal.
12. The method of claim 8, wherein said method further comprises:  
  
providing a receiver operationally coupled to said antenna cable, wherein said receiver includes an input port adapted to receive said signal from the main antenna via a second end of said antenna cable, and said input port is further adapted to receive said second internal signal as a signal induced on the outer shield of said antenna cable.
13. The method of claim 12, wherein said receiver includes signal processing circuitry operationally coupled to said input port, said signal processing circuitry adapted to process said first internal signal and said second internal signal for use by an end user.
14. The method of claim 13, wherein said input port includes a decoupling device, said decoupling device adapted to separate signals induced into said main antenna and said outer shield of said antenna cable.

15. A wireless communication system comprising:  
a signal source for providing a communication signal;  
a first antenna for receiving said communication signal as a first internal signal, said first antenna operationally connected to an antenna cable;  
a second antenna for receiving said communication signal as a second internal signal on an outer shield of said antenna cable, said second antenna being spatially distinct from said first antenna, and wherein said outer shield provides an electromagnetic shield for said antenna cable;  
a signal receiver having a first input for receiving said first internal signal via said first conductor, and a second input for receiving said second internal signal via said second conductor; and  
signal processing circuitry operationally connected to said first input and said second input, said signal processing circuitry adapted to operationally modify said first internal signal and said second internal signal to produce a usable signal.

16. The system of claim 15, wherein said first input and said second input each include a decoupling device, said decoupling device allowing the first and second internal signals to pass to the signal processing circuitry.

17. The system of claim 16, wherein the decoupling device is selected from the group consisting of a ferromagnetic device, a transformer, an opto-electronic device, a differential amplifier, a SAW device, and an optical device.

18. A method of wireless communication comprising:  
providing a signal source for providing a communication signal;  
providing a first antenna for receiving said communication signal on a first conductor, as a first internal signal;  
providing a second antenna for receiving said communication signal as a second internal signal on a second conductor, said second antenna being spatially distinct from said first antenna, and wherein said second conductor provides an electromagnetic shield for said first conductor;

providing a signal receiver having a first input for receiving said first internal signal via said first conductor, and a second input for receiving said second internal signal via said second conductor; and  
providing signal processing circuitry operationally connected to said first input and said second input, said signal processing circuitry adapted to operationally modify said first internal signal and said second internal signal to produce a usable signal.

19. The method of claim 18, wherein said first input and said second input each include a decoupling device, said decoupling device allowing the first and second internal signals to pass to the signal processing circuitry independently.

20. The method of claim 19, wherein the decoupling device is selected from the group consisting of a ferromagnetic device, a transformer, an opto-electronic device, an optical device, a SAW device, and an electronic filter.

21. An apparatus containing a wireless communication system, said apparatus comprising:  
a first antenna for receiving a communication signal on a first conductor, as a first internal signal, said first antenna operationally connected to an antenna cable;  
a second antenna for receiving said communication signal as a second internal signal on an outer shield of the antenna cable of the first antenna;  
a signal receiver adapted to separate said first internal signal and said second internal signal;  
signal processing circuitry operationally connected to said first input and said second input, said signal processing circuitry adapted to operationally modify said first and second internal signals to produce a usable signal; and  
an electrical power source operationally coupled to, and adapted to provide electrical power to said signal receiver, said signal processing circuitry, and said first and second antennas.